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IS 13036 (1991): Textiles - Apparatus for Testing Colour Fastness of Textile Materials to Washing, Laundering and Dry-Cleaning [TXD 5: Chemical Methods of Test]



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भारतीय मानक

वस्त्रादि-धुलाई, लांडरिंग और ड्राईक्लीनिंग के प्रति वस्त्रादि
सामग्रियों के रंग पक्कापन का परीक्षण करने का
उपकरण—विशिष्ट

Indian Standard

TEXTILES — APPARATUS FOR TESTING
COLOUR FASTNESS OF TEXTILE MATERIALS
TO WASHING, LAUNDERING AND
DRY-CLEANING — SPECIFICATION

UDC 677·016·474 : 535·685 · 2 : 620·1·05

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FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Chemical Methods of Test Sectional Committee had been approved by the Textile Division Council.

Testing of coloured textiles for their resistance to washing, laundering and dry-cleaning is very important for their optimum performance during everyday use. In order to achieve repeatable and reproducible test results, the use of a standard testing apparatus needs no emphasis.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified in this standard.

Indian Standard

TEXTILES — APPARATUS FOR TESTING COLOUR FASTNESS OF TEXTILE MATERIALS TO WASHING, LAUNDERING AND DRY-CLEANING — SPECIFICATION

1 SCOPE

1.1 This standard prescribes design and constructional requirements of the apparatus for testing colour fastness of textile materials to washing, laundering and dry-cleaning.

2 REFERENCES

2.1 The Indian Standards given in Annex A are necessary adjuncts to this standard.

3 DESIGN AND CONSTRUCTIONAL REQUIREMENTS

3.1 The apparatus shall consist of:

- a) glass or stainless steel containers in which the test specimens or composite specimens, test solution and stainless steel balls or stainless steel discs are to be contained together,
- b) a device to revolve the containers, and
- c) a thermostatic water bath to maintain the temperature of test solution in the containers at a constant value as required in the test.

An illustrative diagram of the apparatus is shown in Fig. 1.

3.2 Glass or Stainless Steel Containers

The containers shall be made either from glass conforming to the relevant requirements given

in IS 2619 : 1971 or from stainless steel conforming to IS 5522 : 1978, leak proofed and sealed. They shall be of 75 ± 5 mm diameter, 125 ± 10 mm height and 550 ± 50 ml capacity. They shall be able to withstand a revolving speed of 40 ± 2 rev/min without any damage. They shall have smooth surface and shall be free from rough edges.

NOTE — The containers should preferably be cylindrical in shape.

3.3 Revolving Device

It shall consist of an electric motor, a revolving shaft and holders for containers fixed to the revolving shaft radially. It shall enable the containers to be fixed so that the centre line of holders may position in one line with the centre line of the containers. It shall be capable of rotating the shaft/container assembly at a speed of 40 ± 2 rev/min. The distance between the centre line of the revolving shaft and the bottom of the containers shall be 45 ± 10 mm.

3.4 Thermostatic Water Bath

It shall be provided with a heater capable of keeping the temperature of the test solution contained in the rotating containers at the specified temperature within $\pm 2^\circ\text{C}$.

3.5 Stainless Steel Balls

They shall be non-corrodible, made from stainless steel conforming to IS 6603 : 1972 and shall have a diameter of 6 ± 0.4 mm.

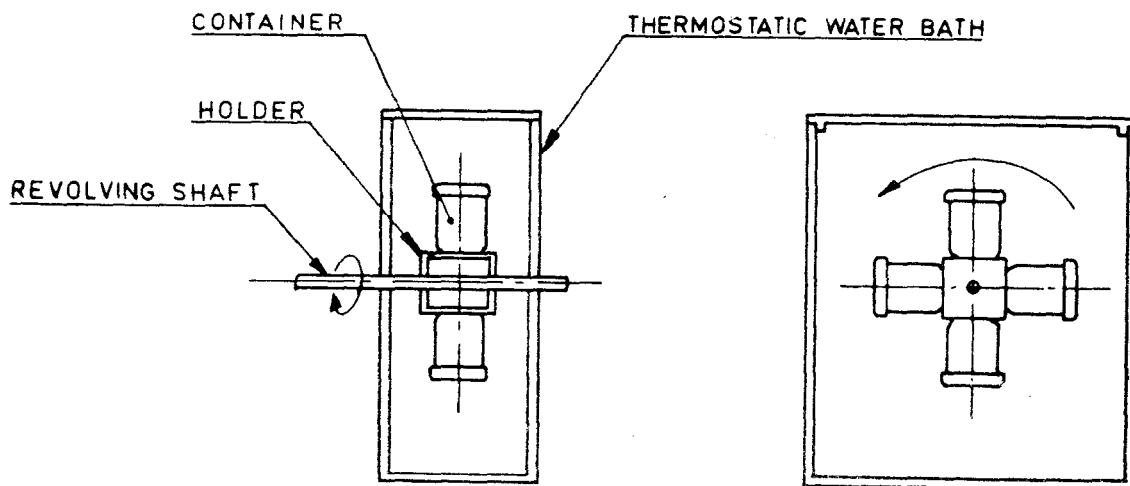


FIG. 1 ILLUSTRATIVE DIAGRAM OF THE APPARATUS FOR TESTING COLOUR FASTNESS OF TEXTILE MATERIALS TO WASHING, LAUNDERING AND DRY-CLEANING

NOTE — The stainless steel balls shall be used for severe washing and laundering tests as prescribed in IS 765 : 1979 and IS 3417 : 1979. For dry-cleaning test given in IS 4802 : 1988, stainless steel discs, as prescribed in 3.6, shall be used.

3.6 Stainless Steel Discs

They shall be non-corrodible, made from stainless steel conforming to IS 6603 : 1972 and shall have a diameter of 30 ± 2 mm and mass of 20 ± 2 g. They shall be smooth and free from rough edges.

4 INSPECTION AND TESTING

4.1 The apparatus shall be checked for the requirements specified in 3.1 to 3.6 and the following:

- a) All containers, holders, thermostatic water bath and stainless steel discs shall be checked for defects like pin holes, cavities, etc,
- b) The entire apparatus shall be checked for static and dynamic balancing for smooth working and any unbalance shall be removed;
- c) The electric circuit shall be checked to avoid any short circuiting in operation;
- d) The temperature control mechanism shall be checked for its proper working and

the instrument shall be calibrated to read accurate temperature; and

- e) The revolving device shall be checked for proper working and periodic calibration of speed, preferably by speed indicator, shall be done.

5 PACKING

5.1 The entire apparatus assembly shall be packed with strong and sturdy packing so as to avoid damage during transit.

6 MARKING

6.1 The apparatus shall be marked at appropriate place with the following:

- a) The name of the apparatus,
- b) Indication of the source of manufacture, and
- c) The month and year of manufacture of the apparatus.

6.2 The apparatus may also be marked with the Standard Mark.

7 CRITERIA FOR CONFORMITY

7.1 The apparatus shall be declared as conforming to the requirements of this standard if it satisfies all the requirements given in this standard.

ANNEX A

(Item 2.1)

IS No.	Title	IS No.	Title
765 : 1979	Method for determination of colour fastness of textile materials to washing : Test 4 (second revision)		colour fastness of textile materials to dry-cleaning (first revision)
2619 : 1971	Glass beakers (first revision)	5522 : 1978	Stainless steel sheets and coils (first revision)
3417 : 1979	Method for determination of colour fastness of textile materials to washing : Test 5 (first revision)	6603 : 1972 13025 : 1990	Stainless steel bars and flats Method for determination of colour fastness of textile materials to domestic and commercial laundering
4802 : 1988	Method for determination of		

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